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     FILE 'REGISTRY' ENTERED AT 17:22:00 ON 29 MAR 2006
L4             0 S POLYHYDROXYCINNAMIC ACID
L5             0 S POLY-HYDROXYCINNAMIC ACID
L6           131 S HYDROXYCINNAMIC ACID

     FILE 'CAPLUS' ENTERED AT 17:22:54 ON 29 MAR 2006
L7         23075 S L6
L8        271928 S (HOMOPOLYMER? OR LIQUID CRYSTAL?)
L9           161 S L7 AND L8
L10         2721 S (HOMOPOLYMER? AND LIQUID CRYSTAL?)
L11            6 S L10 AND L7
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L11 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:741856 CAPLUS
DN 141:261454
ED Entered STN: 10 Sep 2004
TI Bio **liquid crystal** polymers and molded article
IN Kaneko, Tatsuo; Matsuzaki, Fumiya; Chantihan; Akashi, Mitsuru; Kuriyama, Naoto
PA Toyota Gosei Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08G063-06
ICS G02B001-04; A61L027-00
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 63, 73
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004250700	A2	20040909	JP 2004-22195	20040129
US 2005018123	A1	20050127	US 2003-627995	20030728
PRAI JP 2003-22858	A	20030130		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2004250700	ICM	C08G063-06
	ICS	G02B001-04; A61L027-00
	IPCI	C08G0063-06 [ICM,7]; G02B0001-04 [ICS,7]; A61L0027-00 [ICS,7]
	FTERM	4C081/AB13; 4C081/AC02; 4C081/AC03; 4C081/BA16; 4C081/BB08; 4C081/CA171; 4C081/CB011; 4C081/DA01; 4C081/DA03; 4C081/DA04; 4J029/AA02; 4J029/AC01; 4J029/AC02; 4J029/AD09; 4J029/AD10; 4J029/AE01; 4J029/AE04; 4J029/AE06; 4J029/AE18; 4J029/EC10; 4J029/FC41; 4J029/GA51; 4J029/GA63; 4J029/HA01; 4J029/HB01; 4J029/JB171; 4J029/JF031; 4J029/KD02; 4J029/KE02; 4J029/KE03; 4J029/KE08; 4J029/KH05; 4J029/LA01; 4J029/LA04; 4J029/LB05
US 2005018123	IPCI	C09K0019-02 [ICM,7]
	IPCR	C09K0019-38 [I,A]; C09K0019-38 [I,C]
	NCL	349/182.000
	ECLA	C09K019/38A; C09K019/38B4B6

AB Title polymers showing biocompatibility comprise organism-originated compds. or their derivs. and exhibit **liq. crystallinity** in specific conditions. Thus, inositol and 4-hydroycinnamic acid were polymerized to give a **liq. crystal** copolymer with good solubility in DMF, NMP, and DMSO when 1, 10, and 40 mol% inositol was used.
ST bio **liq crystal** polymer molded article; hydroycinnamic acid inositol copolymer prepn
IT Polyesters, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(**liq. crystal**; preparation of bio **liq. crystal** polymers for molded article)
IT **Liquid crystals**
(nematic; preparation of bio **liq. crystal** polymers for molded article)
IT Optical instruments
(parts; preparation of bio **liq. crystal** polymers for molded article)
IT Polyesters, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyamide-, **liq. crystals**; preparation of bio **liq. crystal** polymers for molded article)
IT Polyamides, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
(polyester-, **liq. crystals**; preparation of bio **liq. crystal** polymers for molded article)

IT **Liquid crystals**, polymeric
Prosthetic materials and Prosthetics
(preparation of bio **liq. crystal** polymers for molded article)

IT Molded plastics, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(preparation of bio **liq. crystal** polymers for molded article)

IT **50940-26-6P**, 4-Hydroxycinnamic acid **homopolymer**
223435-46-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(assumed monomers; preparation of bio **liq. crystal** polymers for molded article)

IT **753467-76-4P**, 4-Hydroxycinnamic acid-tyrosine copolymer
753467-78-6P 753467-80-0P 753467-82-2P 753467-84-4P 753467-86-6P
753467-88-8P 753467-90-2P 753467-92-4P 753467-94-6P 753467-97-9P
753467-99-1P 753468-01-8P
RL: IMF (Industrial manufacture); PREP (Preparation)
(**liq. crystal**; preparation of bio **liq. crystal** polymers for molded article)

IT **80181-49-3P** 223435-48-1P
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of bio **liq. crystal** polymers for molded article)

L11 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:251193 CAPLUS
DN 140:391764
ED Entered STN: 26 Mar 2004
TI Thermotropic **liquid-crystalline** polymer derived from natural cinnamoyl biomonomers
AU Kaneko, Tatsuo; Matsusaki, Michiya; Hang, Tran Thi; Akashi, Mitsuru
CS Department of Nanostructured and Advanced Materials, Graduate School of Science and Engineering, Kagoshima University, Kagoshima, 890-0065, Japan
SO Macromolecular Rapid Communications (2004), 25(5), 673-677
CODEN: MRCOE3; ISSN: 1022-1336
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA English
CC 37-3 (Plastics Manufacture and Processing)
AB The compound 4-hydroxycinnamic acid (4HCA), a natural biomonomer, is polymerized by melt polycondensation to yield a **liq.-cryst.** biopolymer (P4HCA) with UV reactivity. L929 cells were successfully incubated on P4HCA films at 37°.
ST hydroxycinnamic acid **homopolymer** prepn photoreactivity cell adhesion
IT Adhesion, biological
Liquid crystals, polymeric
(preparation, photoreactivity and cell adhesion properties of **liq.-cryst.** poly(hydroxycinnamic acid))
IT **55972-45-7P**, trans-4-Hydroxycinnamic acid **homopolymer**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation, photoreactivity and cell adhesion properties of **liq.-cryst.** poly(hydroxycinnamic acid))
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Broer, D; Nature 1995, V378, P467 CAPLUS
(2) Chung, T; Polym Eng Sci 1986, V26, P901 CAPLUS
(3) Collings, P; Introduction to Liquid Crystals 1997
(4) Coppin, C; Biophys J 1992, V63, P794 CAPLUS

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(6) Elias, H; Makromol Chem 1985, V186, P893 CAPLUS
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(8) Giraud-Guille, M; Int Rev Cytology 1996, V166, P59 CAPLUS
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(13) Hikmet, R; Nature 1998, V392, P476 CAPLUS
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(17) Kawatsuki, N; Macromolecules 1998, V31, P5984 CAPLUS
(18) Livolant, F; J Phys (France) 1989, V50, P1729 CAPLUS
(19) Matsusaki, M; J Appl Polym Sci 2001, V82, P2357 CAPLUS
(20) Perutz, M; Nature 1951, V167, P929
(21) Prasad, V; J Macromol Sci Pure Appl Chem 2001, VA38, P641 CAPLUS
(22) Robinson, C; Tetrahedron 1961, V13, P219 CAPLUS
(23) Scheffer, T; Appl Phys Lett 1984, V45, P1021 CAPLUS
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(25) Spencer, M; Nature 1962, V194, P1014 CAPLUS
(26) Tanaka, Y; Polym Lett Ed 1975, V13, P235 CAPLUS
(27) Yang, J; Macromolecules 1992, V25, P1791 CAPLUS

L11 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:96314 CAPLUS
DN 138:145185
ED Entered STN: 07 Feb 2003
TI Photo-alignment materials for **liquid crystal** alignment film
IN Choi, Hwan Jae; Lee, Eun Kyung; Kim, Jong Lae; Kim, Joo Young
PA Samsung Electronics Co., Ltd., S. Korea
SO Eur. Pat. Appl., 27 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C08G073-06
ICS G02F001-1337
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
FAN.CNT 1

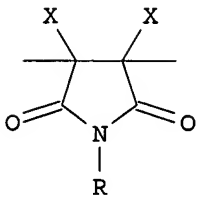
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1281726	A1	20030205	EP 2002-254853	20020710
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	KR 2003012330	A	20030212	KR 2001-46313	20010731
	JP 2003066460	A2	20030305	JP 2002-166098	20020606
	JP 3612308	B2	20050119		
	CN 1407062	A	20030402	CN 2002-126973	20020725
	US 2003118752	A1	20030626	US 2002-207380	20020730
	US 6858269	B2	20050222		
PRAI	KR 2001-46313	A	20010731		

CLASS

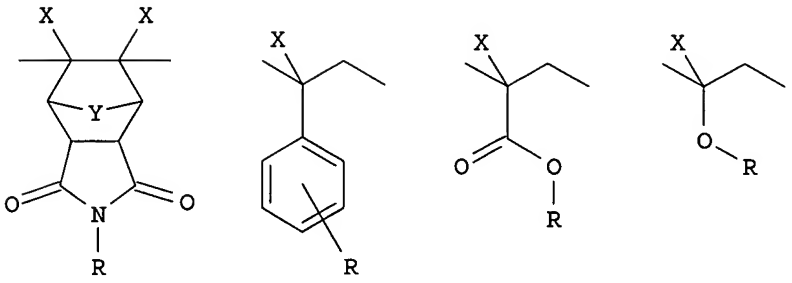
PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1281726	ICM	C08G073-06
	ICS	G02F001-1337
	IPCI	C08G0073-06 [ICM,7]; G02F0001-1337 [ICS,7]
	IPCR	C08G0073-00 [I,C]; C08G0073-06 [I,A]; G02F0001-13 [I,C]; G02F0001-1337 [I,A]
	ECLA	C08G073/06C1; G02F001/1337T4

KR 2003012330	IPCI	C08F0122-40 [ICM,7]
JP 2003066460	IPCI	G02F0001-1337 [ICM,7]; C08F0022-40 [ICS,7]
	IPCR	C08G0073-00 [I,C]; C08G0073-06 [I,A]; G02F0001-13 [I,C]; G02F0001-1337 [I,A]
CN 1407062	IPCI	C09K0019-52; G02F0011-39
US 2003118752	IPCI	C09K0019-00 [ICM,7]
	IPCR	C08G0073-00 [I,C]; C08G0073-06 [I,A]; G02F0001-13 [I,C]; G02F0001-1337 [I,A]
	NCL	428/001.260
	ECLA	C08G073/06C1; G02F001/1337T4

GI



I



II

AB Disclosed is a photo-alignment material for **liq. crystal** alignment film comprising a repeating unit represented by I (X =H, F, Cl, C1-14 alkyl group; R = functional group), or selected from the group consisting of structures represented by II (Y =O, C2-14 alkylene). **Liq. crystal** display devices comprising such material have improved elec. and electrooptical properties.

ST **liq crystal** display film photo alignment material

IT **Liquid crystal** displays
(photo-alignment materials for **liq. crystal** alignment film)

IT 26184-12-3DP, hydrolyzed and reaction product with the production of hydroxychalcone and fluorobenzoic acid 106870-12-6DP, hydrolyzed and reaction product with the production of ethylchlorocarbonyl cinnamate and hydroxybenzoic acid, and product with valeryl chloride 494206-38-1DP, hydrolyzed and reaction product with methoxycinnamoylchloride 494206-39-2DP, hydrolyzed and reaction product with the production of ethylchlorocarbonyl cinnamate and hydroxybenzoic acid 494206-41-6DP, hydrolyzed and reaction product with the production of cinnamoyl chloride and hydroxybenzoic acid
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photo-alignment materials for **liq. crystal** alignment film)

IT 99-96-7, 4-Hydroxybenzoic acid, reactions 108-31-6, Maleic anhydride,

reactions 123-30-8, 4-Aminophenol 140-10-3, reactions 456-22-4, 4-Fluorobenzoic acid 619-66-9, 4-Carboxybenzaldehyde 638-29-9D, Valeryl chloride, reaction product with hydrolyzed acetoxyphenylmaleimide-acetoxystyrene copolymer and the production of cinnamoyl chloride and hydroxybenzoic acid 1071-46-1, Ethylmalonate 5426-09-5 **7400-08-0**, 4-Hydroxycinnamic acid 7719-09-7, Thionyl chloride 18063-02-0, 2,6-Difluorobenzoyl chloride 42996-84-9D, reaction product with hydrolyzed copolymer 376608-66-1D, reaction product with hydrolyzed acetoxyphenylmaleimide-acetoxystyrene copolymer and Difluorobenzoxy-cinnamoyl chloride 494205-30-0D, reaction product with hydrolyzed acetoxyphenylmaleimide-acetoxystyrene copolymer
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of photo-alignment materials for **liq. crystal** alignment film)

IT 6637-46-3P 38239-55-3P 91047-74-4P 319928-23-9P 494206-37-0DP, reaction product with hydrolyzed acetoxyphenylmaleimide **homopolymer** 494206-40-5DP, reaction product with hydrolyzed acetoxyphenylmaleimide-acetoxystyrene copolymer and valeryl chloride 494206-42-7DP, reaction product with hydrolyzed acetoxyphenylmaleimide-acetoxystyrene copolymer and difluorocinnamoylchloride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of photo-alignment materials for **liq. crystal** alignment film)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Jae, C; US 6218501 B1 2001 CAPLUS

(2) Yong-Kyu, J; US 6048928 A 2000 CAPLUS

L11 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:779146 CAPLUS

DN 132:36200

ED Entered STN: 09 Dec 1999

TI Cinnamate-containing photopolymer for orientation film of **liquid crystal** display (LCD) and method of forming the orientation film using the photopolymer

IN Park, Jae Geun; Kim, Do Yun; Choi, Hwan Jae; Kim, Joo Young

PA Samsung Display Devices Co., Ltd., S. Korea

SO U.S., 8 pp.
CODEN: USXXAM

DT Patent

LA English

IC ICM C08F020-10
ICS C08F020-22; G02F001-1337

INCL 430321000

CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73, 76

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5998101	A	19991207	US 1997-951570	19971016
	US 6174649	B1	20010116	US 1998-189715	19981111
PRAI	KR 1997-15556	A	19970425		
	KR 1997-15557	A	19970425		
	US 1997-951570	A2	19971016		
	US 1997-951882	B2	19971016		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5998101	ICM	C08F020-10
	ICS	C08F020-22; G02F001-1337
	INCL	430321000
	IPCI	C08F0020-10 [ICM,6]; C08F0020-22 [ICS,6]; G02F0001-1337 [ICS,6]

IPCR C08F0012-00 [I,C]; C08F0012-32 [I,A]; G02F0001-13 [I,C]; G02F0001-1337 [I,A]
NCL 430/321.000; 427/520.000; 427/553.000; 522/121.000; 522/153.000; 525/304.000; 526/242.000; 526/321.000
ECLA C08F012/32; G02F001/1337C

US 6174649
IPCI C08F0020-10 [ICM,7]; C08F0020-22 [ICS,7]; G02F0001-1337 [ICS,7]
IPCR C08F0012-00 [I,C]; C08F0012-32 [I,A]; G02F0001-13 [I,C]; G02F0001-1337 [I,A]
NCL 430/321.000; 427/520.000; 427/553.000; 525/302.000; 525/304.000; 526/321.000; 526/326.000
ECLA C08F012/32; G02F001/1337C

AB The present invention provides novel photopolymers for use in **liq** . **crystal** display. The photopolymers are cinnamate-containing photopolymers wherein a mesogen, preferably containing a benzene ring, is introduced between a polyvinyl main chain and a cinnamate group, and also wherein the cinnamate group can be substituted with a cyanide group, an alkyl group, a halogen atom or a fluorocarbonyl group. The cinnamate-containing photopolymers have improved stability and photoelec. properties, and improved pre-tilt angle. The photopolymers can be used to form an orientation film for an LCD in a non-rubbing process, and can be used alone or with a crosslinking agent.

ST cinnamate contg photopolymer orientation film **liq** **crystal** display

IT **Liquid crystal** displays
Liquid crystals, polymeric
(cinnamate-containing photopolymer for orientation film of **liq**. **crystal** display (LCD) and method of forming the orientation film using the photopolymer)

IT 121-44-8, uses
RL: CAT (Catalyst use); USES (Uses)
(cinnamate-containing photopolymer for orientation film of **liq**. **crystal** display (LCD) and method of forming the orientation film using the photopolymer)

IT 252192-84-0P 252237-50-6P
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cinnamate-containing photopolymer for orientation film of **liq**. **crystal** display (LCD) and method of forming the orientation film using the photopolymer)

IT 252192-78-2P, p-Fluorobenzoyloxy-(E)-cinnamic acid 252237-44-8P, Poly(hydroxystyrene) ester with (E)-ar-fluorocinnamic acid 252237-48-2P 252252-88-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(cinnamate-containing photopolymer for orientation film of **liq**. **crystal** display (LCD) and method of forming the orientation film using the photopolymer)

IT 252237-45-9P, Poly(hydroxystyrene) ester with (E)-ar-fluorocinnamic acid, **homopolymer** 252237-47-1P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cinnamate-containing photopolymer for orientation film of **liq**. **crystal** display (LCD) and method of forming the orientation film using the photopolymer)

IT 80-05-7, reactions 403-43-0, p-Fluorobenzoyl chloride **501-98-4** , 4-(E)-Hydroxycinnamic acid 868-77-9, 2-Hydroxyethyl methacrylate 59269-51-1, Poly(hydroxystyrene) 252237-43-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(cinnamate-containing photopolymer for orientation film of **liq**. **crystal** display (LCD) and method of forming the orientation film using the photopolymer)

IT 252237-46-0P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT

(Reactant or reagent)
(crosslinking agent; cinnamate-containing photopolymer for orientation film of **liq. crystal** display (LCD) and method of forming the orientation film using the photopolymer)

IT 252192-82-8P, p-Fluorobenzoyloxy-(E)-cinnamoyl chloride 252192-83-9P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(mesogen; cinnamate-containing photopolymer for orientation film of **liq. crystal** display (LCD) and method of forming the orientation film using the photopolymer)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; JP 63-092609 1988 CAPLUS
(2) Dyaduysha, A; Jpn J Appl Phys 1995, V34(Part 2, No 8A), PL1000
(3) Herr; US 5539074 1996 CAPLUS
(4) Kang; US 5464669 1995 CAPLUS
(5) Kano; US 5705096 1998 CAPLUS
(6) Mandal; US 5290824 1994 CAPLUS
(7) Schadt, M; Jpn J Appl Phys 1992, V31(Part 1, No 7), P2155
(8) Tato; US 3882084 1975 CAPLUS

L11 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:487811 CAPLUS
DN 122:215943
ED Entered STN: 14 Apr 1995
TI Orientation layers for **liquid crystals**
IN Rolf, Peter; Kelly, Stephen; Schadt, Martin; Schmitt, Klaus; Schuster, Andreas
PA Hoffmann-La Roche, F., und Co. A.-G., Switz.
SO Eur. Pat. Appl., 29 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM C08G077-38
ICS C08F246-00; G02F001-1337
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 25, 75

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 611786	A1	19940824	EP 1994-101699	19940204
	EP 611786	B1	19990414		
	R: CH, DE, FR, GB, IT, LI, NL				
	US 5539074	A	19960723	US 1994-191835	19940204
	EP 611981	A1	19940824	EP 1994-101684	19940207
	EP 611981	B1	19970611		
	R: CH, DE, FR, GB, IT, LI, NL				
	SG 50569	A1	20010220	SG 1996-5186	19940207
	SG 94794	A1	20030318	SG 2001-200101880	19940207
	JP 06289374	A2	19941018	JP 1994-16662	19940210
	JP 2543666	B2	19961016		
	CN 1091458	A	19940831	CN 1994-101586	19940216
	CN 1096807	A	19941228	CN 1994-101585	19940216
	CN 1054439	B	20000712		
	JP 06287453	A2	19941011	JP 1994-20376	19940217
	JP 3611342	B2	20050119		
	US 36625	E	20000321	US 1998-119787	19980721
	HK 1012018	A1	20000428	HK 1998-112064	19981117
PRAI	CH 1993-488	A	19930217		
	CH 1993-553	A	19930223		
	US 1994-191835	A5	19940204		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES

EP 611786	ICM	C08G077-38
	ICS	C08F246-00; G02F001-1337
	IPCI	C08G0077-38 [ICM,5]; C08F0246-00 [ICS,5]; G02F0001-1337 [ICS,5]
	IPCR	C08F0246-00 [I,A]; C08F0246-00 [I,C]; C08G0077-00 [I,C]; C08G0077-38 [I,A]; G02F0001-13 [I,C]; G02F0001-1337 [I,A]
	ECLA	C08F246/00; C08G077/38; G02F001/1337C
US 5539074	IPCI	C08F0020-10 [ICM,6]; C08F0020-22 [ICS,6]; C08F0020-36 [ICS,6]; C08F0020-42 [ICS,6]
	IPCR	C08F0246-00 [I,A]; C08F0246-00 [I,C]; C08G0077-00 [I,C]; C08G0077-38 [I,A]; G02F0001-13 [I,C]; G02F0001-1337 [I,A]
	NCL	526/326.000; 526/245.000; 526/258.000; 526/279.000; 526/292.100; 526/293.000; 526/297.000; 526/304.000; 526/305.000; 526/311.000; 526/328.000; 526/347.000
	ECLA	C08F246/00; C08G077/38; G02F001/1337C
EP 611981	IPCI	G02F0001-1337 [ICM,5]; G02F0001-1335 [ICS,5]
	IPCR	C08F0246-00 [I,A]; C08F0246-00 [I,C]; C08G0077-00 [I,C]; C08G0077-38 [I,A]; G02F0001-13 [I,C]; G02F0001-1337 [I,A]
	ECLA	C08F246/00; C08G077/38; G02F001/1337C; G02F001/1337M
SG 50569	IPCI	G02F0001-1337 [ICM,7]; G02F0001-137 [ICS,7]
SG 94794	IPCI	C09K0019-56 [ICM,7]
JP 06289374	IPCI	G02F0001-1333 [ICM,5]; G02F0001-1337 [ICS,5]
CN 1091458	IPCI	C09K0019-38 [ICM,5]
CN 1096807	IPCI	C09K0019-02 [ICM,5]; G02F0001-13 [ICS,5]
JP 06287453	IPCI	C08L0101-00 [ICM,5]; C08F0220-22 [ICS,5]; C08F0220-28 [ICS,5]; C09K0019-56 [ICS,5]; G02F0001-1337 [ICS,5]
US 36625	IPCI	C08F0028-20 [ICM,7]
	IPCR	C08F0246-00 [I,A]; C08F0246-00 [I,C]; C08G0077-00 [I,C]; C08G0077-38 [I,A]; G02F0001-13 [I,C]; G02F0001-1337 [I,A]
	NCL	526/245.000; 526/258.000; 526/279.000; 526/292.100; 526/293.000; 526/297.000; 526/304.000; 526/305.000; 526/311.000; 526/326.000; 526/328.000; 526/347.000
	ECLA	C08F246/00; C08G077/38; G02F001/1337C
HK 1012018	IPCI	C08G [ICM,7]; C08F [ICS,7]; G02F [ICS,7]

AB The title layers, which can be prepared reproducibly without leaving undesirable OH groups, comprise polymers (d.p. 4-100,000) bearing mols. capable of undergoing photochem. isomerization/dimerization and separated from the polymer backbone by spacer units. Reduction of 4'-pentyl-4-biphenylcarbonitrile with iso-Bu2AlH gave 4'-pentyl-4-biphenylcarboxaldehyde which was treated with (EtO)2PCH2CO2SiMe3 and BuLi in THF to give 3-(E)-(4'pentyl-4-biphenylyl)acrylic acid, reaction of which with hydroxyethyl methacrylate gave the (methacryloyloxy)ethyl ester (I). AIBN-initiated polymerization of 1 g I in THF at 60° gave 0.4 g polymer with glass temperature 123° and clear point 160°.

ST **liq crystal** orientation layer; pentylbiphenylylacrylate methacryloyloxyethyl polymer; pentylbiphenylcarbonitrile redn; pentylbiphenylcarboxaldehyde Wittig reaction

IT Siloxanes and Silicones, properties
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
([[(carboxyvinyl]phenyl]butyl; orientation layers for **liq. crystals**)

IT **Liquid crystals**
(orientation layers for **liq. crystals**)

IT 49718-23-2DP, Methylsilanediol **homopolymer**, reaction products with butenyl cinnamate 162206-16-8P 162206-18-0P 162206-20-4P 162206-22-6P 162206-23-7P 162206-24-8P 162206-26-0P 162206-27-1P 162206-28-2P 162206-30-6P 162206-31-7P 162206-32-8P 162206-34-0P 162206-36-2P 162206-41-9DP, reaction products with Me hydrogen siloxanes
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(orientation layers for **liq. crystals**)

IT 162206-40-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and (methacryloyloxy)ethylation of)

IT 162206-38-4P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)

IT 159471-24-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with hydroxybutyl methacrylate)

IT 162206-37-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with methacryloyl chloride)

IT 162206-39-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with methoxybenzoyl chloride)

IT 34446-64-5P, 4-Methoxycinnamoyl chloride
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with piperidinol)

IT 56741-21-0P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with trimethylsilyl (di-Et phosphono)acetate)

IT 133750-25-1P 156807-06-6P 161065-23-2P 162206-15-7P 162206-29-3P
162206-33-9P 162206-35-1P 162206-41-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of)

IT 18664-39-6, 4-Cyanocinnamic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with (aminopropyl)methacrylamide)

IT 100-07-2, 4-Methoxybenzoyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with (methacryloyloxy)butyl (hydroxyphenyl)acrylate)

IT 868-77-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with (pentylbiphenylyl)acrylic acid)

IT **501-98-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with Et chloroformate)

IT 997-46-6, 4-Hydroxybutyl methacrylate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with [(ethoxycarbonyl)oxy]cinnamoyl chloride)

IT 86742-39-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with cyanocinnamic acid)

IT 541-41-3, Ethyl chloroformate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with hydroxycinnamic acid)

IT 940-62-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with hydroxyethyl methacrylate)

IT 5382-16-1, 4-Piperidinol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with methoxycinnamoyl chloride)

IT 66130-90-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with pentylbiphenylcarboxaldehyde)

IT 1191-15-7, Diisobutylaluminum hydride

RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction by, of pentylbiphenylcarbonitrile)
IT 40817-08-1, 4'-Pentyl-4-biphenylcarbonitrile
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction with diisobutylaluminum hydride)

L11 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1993:581341 CAPLUS
DN 119:181341
ED Entered STN: 30 Oct 1993
TI The photophysics and photochemistry of side-chain substituted **liquid-crystalline** poly(aryl cinnamates)
AU Singh, Sangya; Creed, David; Hoyle, Charles E.
CS Dep. Chem., Univ. South. Mississippi, Hattiesburg, MS, 39406-5043, USA
SO Proceedings of SPIE-The International Society for Optical Engineering (1993), 1774(Nonconducting Photopolymers and Applications), 2-11
CODEN: PSISDG; ISSN: 0277-786X
DT Journal
LA English
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 75
AB The synthesis and photochem. of comb-like thermotropic **liq.-cryst.** (L.C.) **homopolymers** from 4-(pentyloxy)phenyl 4-[6-(methacryloyloxy)hexyloxy]cinnamate (I) is described. I is polymerized using a radical initiator. The acrylate analog is resistant to polymerization under the same reaction conditions. The principal photochem. reactions on photolysis (313 nm) of solns. of the polymer as well as freshly cast films are photocycloaddn. and photo-Fries rearrangement of the aryl cinnamate chromophore. Aggregation of chromophores is studied in films as a function of phase type at different temps. These results are compared with those obtained from main chain L.C. poly(aryl cinnamates).
ST polymethacrylate thermotropic photophysics photochem
IT Molecular association
(of polymethacrylate-based cinnamate-containing thermotropic polymer)
IT Cycloaddition reaction
([2+2], photochem., of polymethacrylate-based cinnamate-containing thermotropic polymer)
IT **Liquid crystals**, polymeric
(thermotropic, preparation and photophysics and photochem. of polymethacrylate-based)
IT 18979-53-8, 4-(Pentyloxy)phenol
RL: USES (Uses)
(condensation of, with (meth)acryloyloxyhexyloxycinnamic acid)
IT **7400-08-0**, p-Hydroxycinnamic acid
RL: USES (Uses)
(condensation of, with chlorohexanol)
IT 2009-83-8, 6-Chloro-1-hexanol
RL: USES (Uses)
(condensation of, with hydroxycinnamic acid)
IT 79-10-7, 2-Propenoic acid, reactions 79-41-4, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with hydroxyhexyloxycinnamic acid)
IT 122246-54-2P, 4-(6-Hydroxyhexyloxy)cinnamic acid
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and (methy)acrylyolation of)
IT 150623-74-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and attempted polymerization of)
IT 125274-23-9P, 4-[6-(Methacryloyloxy)hexyloxy]cinnamic acid 150623-73-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and condensation with pentyloxyphenol)
IT 150600-61-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and photophysics and photochem. of thermotropic)

IT 150600-60-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)